REMARKS

Claims 1-14 remain in the application. Claims 15-18 have been added in order to further distinguish the applicants' invention over the prior art. Claims 1, 2, 5, 8, 9, and 12 stand rejected under 35 U.S.C. §102(e) as being anticipated by Valizadeh (U.S. Patent 5,838,994). Claims 3, 4, 6, 7, 10, 11, 13, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Valizadeh (U.S. Patent 5,838,994) and Yoshimoto et al. (US5,862,409). Applicants respectfully traverse the rejection of the claims of the present invention for the following reasons.

As per claims 1 and 8, as well as claims 5, and 12, applicants respectfully disagree that Valizadeh discloses "a buffer pool further comprised of an amount of fixed storage and an amount of virtual storage." To support a 102 rejection, each claimed limitation must appear in the cited reference. Applicants assert that Valizadeh does not include the claimed limitation of "an amount of virtual storage." Indeed a primary objective of the applicants' invention is to "improve the performance and efficiency of a buffer management system in operating systems that support virtual memory" (page 4 line 4-6). Applicants have been unable to find any references within Valizadeh that make mention of virtual storage or of paging mechanisms associated therewith.

Furthermore, applicants assert that Valizadeh does not include the claimed limitation of "an amount of fixed storage" in the sense conveyed by the language of the claim. Applicants claims must be interpreted in view of the whole. Although the applicants acknowledge that Valizadeh refers to a "fixed region" (column 2 line 54), applicants find that the fixed region of Valizadeh differs from the fixed storage of the applicants' invention.

Applicants assert that the use of the term "fixed" assumes a different meaning within Valizadeh than within the claims of the applicants. Specifically, the fixed storage of the

applicants' invention is fixed relative to virtual memory paging in that the fixed buffers are not pageable. On the other hand, the fixed region of Valizadeh comprises a "minimum number of buffers specifically reserved ... regardless of whether the logical channel serviced by the buffer queue is activated or deactivated" (column 2 lines 58-62). Applicants assert that the term "fixed" within Valizadeh refers to those buffers dedicated to service particular channels and that those buffers are fixed in number and association.

In contrast, applicants use of the term "fixed" refers to virtual memory pagability in that fixed storage may not be paged out to secondary storage whereas virtual storage may be paged out. Applicants assert that the fixed region of Valizadeh performs a different function than the fixed storage of the applicants' invention, particularly in light of the dynamic sizing associated with the applicants' invention as emphasized by the limitations "for dynamically varying the amount of fixed storage ... based on a comparison of present usage ... to target values." The cited limitations imply that dynamic variation of the amount of fixed storage is a major attribute of the present invention. Applicants assert that the cited claim limitations convey that the number of buffers within applicants fixed storage is neither fixed in number or association as in the disclosure of Valizadeh. Again, the term "fixed" within Valizadeh conveys a different meaning than within the claims and specification of the applicants.

With respect to claims 1 and 8, as well as claims 5, and 12, applicants respectfully disagree that Valizadeh discloses "a buffer manager for dynamically varying the amount of fixed storage and the amount of virtual storage." Applicants assert that a careful reading of Valizadeh reveals that Valizadeh discloses "A buffer management scheme ... wherein the unused memory space normally reserved for queues of deactivated channels are made available for allocation the queues of activated channels." Applicants assert that Valizadeh discloses a mechanism for

directing idle buffers to active channels while retaining a minimum number of dedicated buffers for each channel. Applicants further assert that the disclosed invention of Valizadeh does not vary the amount of fixed storage nor the amount of virtual storage, in that neither fixed storage nor virtual storage is managed or varied by the invention of Valizadeh. Applicants find that the invention of Valizadeh deals with a flat memory model rather than a hierarchical memory model inherent in a virtual memory system, and therefore has no support of fixed and virtual buffers and dynamic variation in the amounts thereof.

Applicants assert that for the reasons presented, claims 1 and 8, 5 and 12, and dependent claims 2-4, 8-11, 6-7, and 13-14 which depend therefrom are in condition for allowance.

As per specific arguments directed to claims 5, and 12, applicants respectfully disagree that Valizadeh discloses "a buffer pool comprising a plurality of buffers logically partitioned into three states fixed, pageable and released." Again, the states referred to with in the claims are buffer or page states relative to a virtual storage system as supported by the applicants' specification and must be interpreted within that context. Fixed buffers cannot be swapped to secondary storage (page 1 lines 27-29), while pageable buffers may be (page 1 lines 23-25). Released buffers are unbacked buffers that do not contain valid data (page 2, lines 7-12). Applicants find that Valizadeh has no equivalent or similar partitioning nor context for providing such a partitioning. Thus, each and every element of the claims are not found in the prior art.

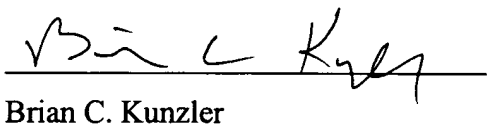
For these additional reasons, claims 5 and 12, and thereby dependent claims 6-7, and 13-14 are distinguished over the prior art of record and are in condition for allowance.

Applicants have chosen to add dependent claims 15-18 and thereby attain additional protection for the present invention. Claims 15-18 add limitations related to determining whether a buffer resides within physical memory as opposed to secondary storage. Such a

determination is useful in optimizing buffer management in a system with virtual storage capabilities. Support for these limitations can be found in the specification at page 13, lines 6 through 20. Applicants believe that because the claims from which the new claims depend are allowable, no new search is required.

As a result of the arguments presented, applicants assert that claims 1-18 are in condition for prompt allowance. If any impediments to the prompt allowance of the claims remain that can be resolved by a telephone conversation, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,



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